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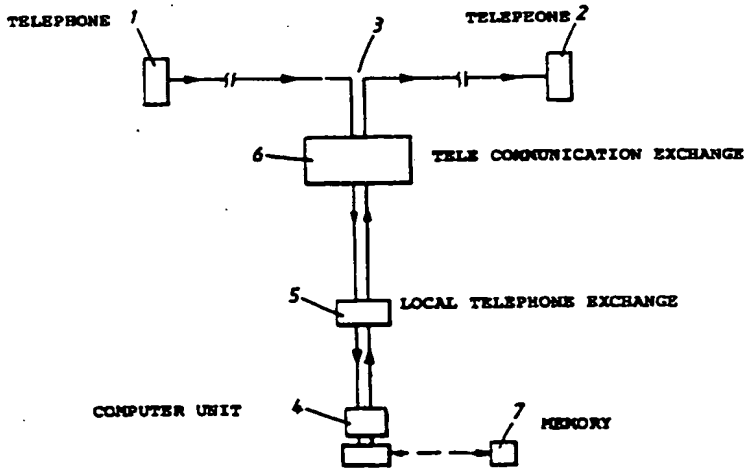

(57) Abstract

A method for forwarding and billing a telephone call, wherein a first subscriber telephone is connected to a second subscriber telephone via a standard telephone network. The invention is characterized in that the first subscriber dials a prefix followed by a subscriber number which leads to a third subscriber and a subscriber number which leads to a second subscriber; in that the prefix causes the telephone network to connect the call via the telephone network to a computer unit associated with the third subscriber and connected to the telephone network, and also causes the computer unit to forward the call to the second subscriber via the computer unit, such as to connect the first subscriber with the second subscriber; and in that detection of the prefix in the telephone network causes the network to bill the call between the first and the second subscriber to the subscription of the third subscriber. According to one highly preferred embodiment, the computer unit is caused to transmit information on the call connection between the first subscriber and the second subscriber at given time intervals. The invention also relates to a device.

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A METHOD AND A DEVICE FOR TELECOMMUNICATION

The present invention relates to a method of forwarding and billing a telephone call, and also to a device for carrying out the method.

In present-day telephone systems, it is only possible to allow the subscriber who calls another subscriber to pay for the call without engaging manual services. However, it is possible to allow the called subscriber to pay for the call by engaging a manual service offered by the telephone company concerned. In Sweden, however, the receiving subscriber is allowed to pay for a call without engaging a manual service, provided that the receiving subscriber has a so-called 020 number.

It is not possible to allow a third person to pay for the call.

The present invention relates to a method and to a device for enabling a third person to pay for a call between two subscribers without engaging a manual service.

Thus, the present invention relates to a method of forwarding and billing a telephone call wherein a first subscriber telephone is connected to a second subscriber telephone over a standard telephone network, said method being characterized in that the first subscriber dials a prefix followed by a subscriber number which leads to a third subscriber and also a subscriber number which leads to a second subscriber; in that the prefix causes the telephone network to connect the call, via said telephone network, to a computer unit associated with the third subscriber and connected to the telephone network, and also causes the computer unit to forward the call to said second subscriber via the computer unit, so as to connect said first subscriber with said second subscriber; and in that detection of said prefix in the telephone network

causes the network to bill the call between the first and the second subscriber to the subscription (subscriber account) of the third subscriber.

The invention also relates to a device herefor that has the characteristic features set forth in Claim 7.

The invention will now be described in more detail with reference to an exemplifying embodiment thereof and also with reference to the accompanying drawing, in which Figure 1 is a block schematic which illustrates the telecommunication.

The present invention thus relates to a method of forwarding and billing a telephone call, wherein a first subscriber telephone is collected to a second subscriber telephone via a standard telephone network. The standard telephone network may be both a public switched telephone network and a mobile telephone network.

According to the present invention, the connection of a telephone call is established by virtue of the first subscriber dialling a prefix followed by a subscriber number, referred to below as 333 333 by way of example, which leads to a third subscriber and further dials a subscriber number which leads to a second subscriber, referred to below as 222 222 by way of example. According to one embodiment, this can be achieved by first dialling the first subscriber prefix followed by the number 333 333, therewith connecting the first subscriber to the third subscriber. When the connection has been established, the first subscriber then dials the number 222 222, therewith forwarding the call to the second subscriber. According to one alternative embodiment, the first subscriber instead dials the prefix and then dials the numbers 333 333 and 222 222, whereafter the call is connected to the third subscriber followed by a call connection to the second subscriber.

By prefix is meant a number, for instance 030, or some other appropriate number. Thus, in the case of this latter alternative, the first subscriber will dial 030 333 333 222 222.

The prefix causes the telephone network to connect the call, via the network, to a computer unit belonging to the third subscriber having the number 333 333 and connected to the telephone network. The prefix also causes the computer unit to forward the call to the second subscriber having the number 222 222 via the computer unit, such as to establish a connection between the first subscriber and the second subscriber. However, the last-mentioned call is connected so as to proceed via the third subscriber.

The telephone network, for instance a telephone switching centre, in a telecommunications exchange, is caused to detect the prefix, for instance in the same way as the prefix 020 is detected in Sweden. Detection of the prefix in the telephone network causes the network to bill the call between the first and the second subscribers to the subscription of the third subscriber.

Thus, a first subscriber is able to establish a call connection with a second subscriber through the medium of a third subscriber with the third subscriber being billed for the cost of the call.

Figure 1 illustrates an inventive system for forwarding a telephone call and billing for the call, wherein a first subscriber telephone 1 is connected to a second subscriber telephone 2 via a standard telephone network, generally referenced 3.

In accordance with the invention, a third subscriber has a computer unit 4 which is connected to the telephone network 3. The computer unit 4 is adapted to detect a prefix dialled

by a first subscriber, followed by a subscriber number which leads to the third subscriber. The third subscriber may have a local telephone exchange or telephone switching centre 5 to which the computer unit 4 is connected. The telephone exchange 5 may be constructed to connect an incoming call to the computer unit upon detection of the prefix. Upon detection of the prefix, the computer unit 4 functions to forward the call, via the telephone network, to a subscriber number dialled by the first subscriber after having dialled the first-mentioned subscriber number, leading to a second subscriber such as to connect the first subscriber with the second subscriber.

The telephone network 3 is also designed to bill the call between the first and the second subscriber to the subscription of the third subscriber, upon detection of said prefix. The prefix is suitably detected in a telephone switching centre in a telecommunications exchange 6 associated with the telephone network, for billing of the call.

This service may, for instance, be used for good-will purposes, so as to make known certain telephone numbers and those companies or organizations to which the telephone numbers belong, by requiring the telephone number of the company or the organization to be dialled after having dialled the prefix, in order to be able to utilize the service.

According to one highly preferred embodiment, the computer unit is constructed to transmit information on the call connection between the first and the second subscribers at certain time intervals.

According to a first embodiment, this information is transmitted so that both the first and the second subscriber can hear the information although are unable to converse with one another while the information is being transmitted.

According to a second embodiment, the information is transmitted so that both the first and the second subscriber are able to hear the information and also converse with one another at the same time.

This information will preferably constitute advertising information concerning the company or the organization that is the third subscriber.

For instance, a chain of hamburger restaurants or a chain of gas filling stations may have a computer unit to which a telephone number consisting of a prefix followed by the subscriber number leads. When the first subscriber has been connected to the computer unit, or when the first subscriber has been connected to the second subscriber, the aforesaid advertising information may for instance be information concerning price-cut offers or ongoing "sale" drives.

In this case, the first subscriber is not billed for the call to the second subscriber, whereas the company or organization concerned delivers its advertised offer to at least the first subscriber, but preferably to both the first subscriber and the second subscriber.

According to one preferred embodiment of the invention, information is transmitted over short time periods, such that the total information transmission time will be less than 20% of the total call time.

For instance, an advertisement can be transmitted for a period of five seconds after a call has been in progress for thirty seconds, whereafter the call is allowed to proceed for a further thirty seconds and then interspersed with an advertising transmission for five seconds, and so on.

According to one preferred embodiment of the invention, the duration of a call connection is limited in accordance with

a predetermined call cost. For instance, the call cost can be limited to correspond to a call of five minutes on a local call tariff. In the case of trunk calls within a given country, the call cost may be limited to correspond to two minutes, for instance. Naturally, shorter call times are conceivable also in the case of international calls.

Obviously, the duration of a call can vary markedly from case to case, and it may be decided that calls can only be connected within geographically limited areas.

It has been mentioned in the aforegoing that a company or an organization may be equipped with said computer unit. However, the invention can also be applied by a pool of companies which commonly connect a computer unit to the telephone network. In this case, transmissions advertising the amenities offered by the various companies associated with the pool is transmitted either as a "mixed bag" or in a predetermined sequence. In this case, the prefix and a number lead to the computer unit.

According to one embodiment of the invention, the advertisement is controlled in accordance with the districts or places in which the first subscriber and the second subscriber are located. For instance, if the first subscriber is located in Stockholm and the second subscriber is located in Gothenburg, and the first subscriber dials the prefix and a number which leads to a company in Stockholm, advertising information concerning a Stockholm company can be transmitted to the first subscriber, while sending, at the same time, to the second subscriber advertising information concerning a Gothenburg company. The advertising information can thus be controlled to relate to the district or place in which respective subscribers are located.

The advertising information may be stored in the computer unit, on data media, such as in a permanent memory or on a

CD-disk, or on a tape recorder connected to the computer. The reference numeral 7 in Figure 1 identifies an external memory or a tape recorder.

It is evident that the present invention solves the problem mentioned in the introduction, of allowing a third subscriber to pay for a call between two other subscribers.

The term third subscriber has been used in the aforegoing and in the following Claims. Naturally, this term, or expression, includes a third subscriber who subscribes to the telephone network company concerned. However, the term also includes the case when the computer unit is installed with a given subscriber but when a party other than the party having the subscription where the computer unit is connected is debited for the cost of the call.

It will also be understood that the present invention can be used successively as a marketing instrument for the company and organization concerned, to the benefit of both the company and the organization and the persons conversing on a call established through the medium of the computer unit.

It will also be understood that modifications can be carried out. For instance, the computer unit may comprise totally or partially a local telephone exchange in a company or an organization. The computer unit may also comprise, either totally or partially, a telecommunications exchange included in the telephone network.

The present invention shall not therefore be considered limited to the aforedescribed exemplifying embodiments thereof, since modifications can be made within the scope of the following Claims.

CLAIMS

1. A method of forwarding a telephone call and billing for said call, wherein a first subscriber telephone is connected to a second subscriber telephone via a standard telephone network, **characterized** in that the first subscriber dials a prefix followed by a subscriber number which leads to a third subscriber and dials a subscriber number which leads to a second subscriber; in that the prefix causes the telephone network to connect the call via said telephone network to a computer unit associated with the third subscriber and connected to the telephone network, and also causes the computer unit to forward the call to said second subscriber via the computer unit, such as to connect said first subscriber with said second subscriber; and in that detection of said prefix in the telephone network causes the network to bill the call between the first and the second subscriber to the subscription of the third subscriber.

2. A method according to Claim 1, **characterized** in that the computer unit is caused to transmit information on the call established between the first and the second subscriber at given time intervals.

3. A method according to Claim 2, **characterized** in that the information is transmitted in a manner such as to be heard by the first and the second subscriber although without the first and the second subscriber being able to converse with one another.

4. A method according to Claim 2, **characterized** in that the information is transmitted in a manner which enables it to be heard by the first and the second subscriber while allowing the subscribers to converse with one another at the same time.

5. A method according to Claim 2, 3 or 4, **characterized** in

that the information is caused to be transmitted over short time intervals; and in that the total time of an information transmission is less than 20% of the total call time.

6. A method according to Claim 2, 3, 4 or 5, **characterized** in that the call connection is limited to a time duration corresponding to a certain predetermined call cost.

7. A system for forwarding and billing a telephone call, wherein a first subscriber telephone is connected to a second subscriber telephone via a standard telephone network, **characterized** by a computer unit (4) associated with a third subscriber and connected to the telephone network (3); in that the computer unit is adapted to detect a prefix dialled by a first subscriber (1) followed by a subscriber number which leads to the third subscriber; in that the computer unit (4) is constructed to forward the call via the telephone network, upon detection of the prefix, to a subscriber number that has been dialled by the first subscriber (1) after the first-mentioned subscriber number and which leads to a second subscriber (2), so as to connect the first subscriber (1) with the second subscriber (2); and in that the telephone network (3) is adapted to bill the subscription of the third subscriber for the call connected between the first and the second subscribers upon detection of said prefix.

8. A system according to Claim 7, **characterized** in that the computer unit (4) is constructed to transmit information on the call connection between the first subscriber (1) and the second subscriber (2) at given time intervals.

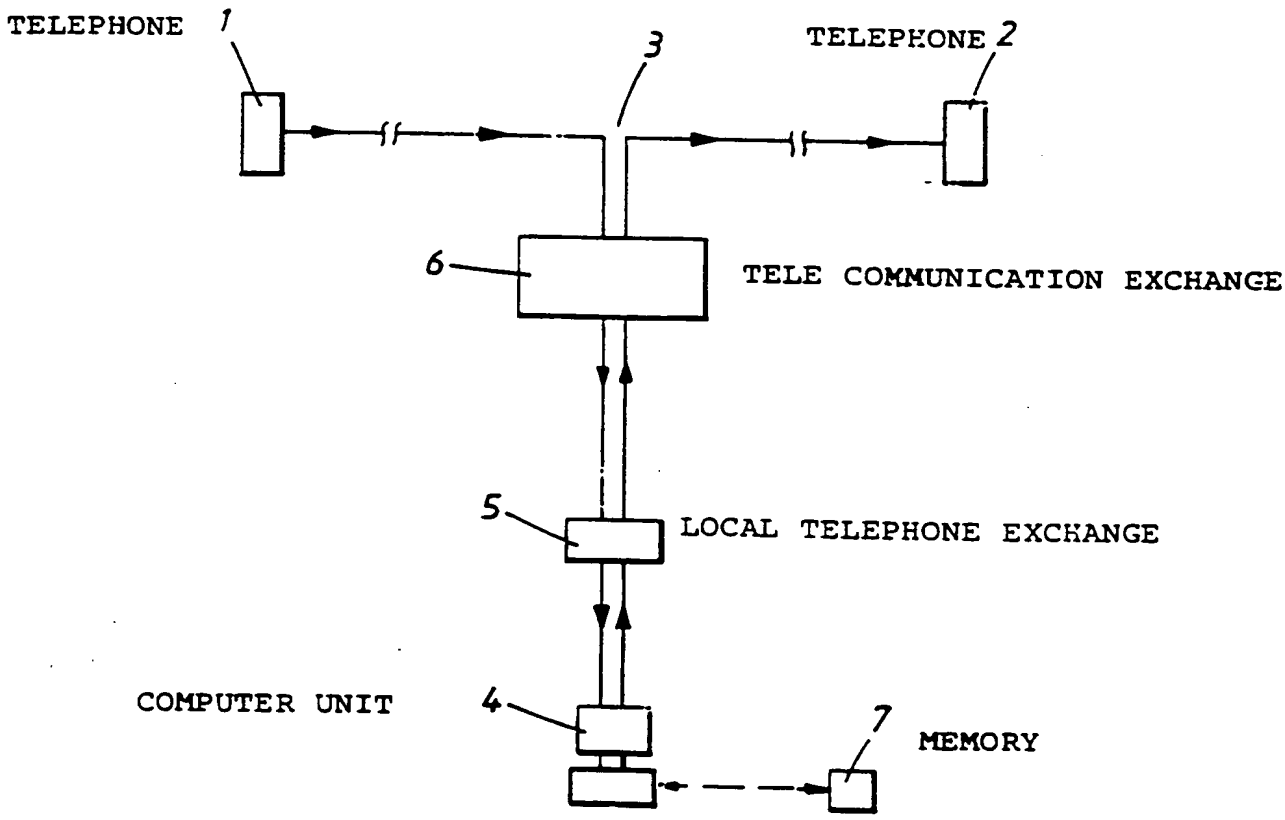
9. A system according to Claim 8, **characterized** in that the computer unit (4) is programmed to transmit said information in a manner such that both the first subscriber (1) and the second subscriber (2) are able to hear the information but are unable to converse with one another during the information transmission.

10. A system according to Claim 8, **characterized** in that the computer unit (4) is programmed to transmit said information in a manner such that both the first subscriber (1) and the second subscriber (2) hear the information and are able to converse with one another at the same time.

11. A system according to Claim 8, 9 or 10, **characterized** in that the computer unit (4) is programmed to transmit said information over short time periods and such that the total information transmission time constitutes less than 20% of the total call time.

12. A system according to Claim 8, 9, 10 or 11, **characterized** in that the computer unit (4) is programmed to limit the connected call to a time duration that corresponds to a given predetermined call cost.

Fig. 1


TELEPHONE 1
3
TELEPHONE 2
6
TELE COMMUNICATION EXCHANGE
5
LOCAL TELEPHONE EXCHANGE
COMPUTER UNIT
4
7
MEMORY

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE 95/01286

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04M 15/00, H04M 3/42, H04M 3/54
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: H04M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CLAIMS, WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5333186 A (SHIV K. GUPTA), 26 July 1994 (26.07.94), column 3, line 61 - column 5, line 62	1,6,7,12
Y		3-5,9-11
	--	
X	WO 9106187 A1 (DUFOUR, JEAN-PIERRE), 2 May 1991 (02.05.91), abstract	1,2,7,8
Y		3-5,9-11
	--	
A	US 4850007 A (PATRICK J. MARINO ET AL), 18 July 1989 (18.07.89), see whole document	1-12
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☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

01/04/96

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A- 5333186	26/07/94	NONE	
WO-A1- 9106187	02/05/91	EP-A,A- 0450045	09/10/91
		FR-A,B- 2653623	26/04/91
US-A- 4850007	18/07/89	AU-B,B- 607233	28/02/91
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